

REMARKS

I. Summary of the Examiner's Action

A. Claim Rejections

In page 2, lines 8 – 9 of the Office Action, the Examiner rejected claims 1 – 4 and 7 – 12 under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,926,619 to Badovinat *et al.* (hereinafter “the Badovinat patent”).

In page 5, lines 9 – 10 of the Office Action, the Examiner rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over the Badovinat patent, and further in view of United States Patent No. 6,360, 331 to Vert *et al.*, (hereinafter “the Vert patent”).

These rejections are respectfully disagreed with, and are traversed below.

II. Applicants' Response – Claim Rejections

A. Rejection of Claims 1 – 4 and 7 – 12 under 35 U.S.C. § 102(b) as being unpatentable over the Badovinat Patent

Claim 1 (as amended) recites, in part, the following subject matter (emphasis added):

1. A method for handling failover of a data management application for a shared disk file system in a distributed computing environment having a cluster of loosely coupled nodes which provide services, comprising the steps of:

* * *

storing configuration information for all the failover
candidate nodes;

* * *

analyzing the distributed message information and the
stored configuration information in order to determine whether to
take over the service of a failure node by a failover candidate node
or not;

updating the configuration information in case of at least
one failover candidate node taking over the service of a failure
node.

The portions of the Badovintz patent relied upon by the Examiner in rejecting
claim 1 are reproduced here:

When a node fails, this fact is reported to all of the nodes
through the heartbeat function, previously described. Badovintz,
column 6, lines 22 – 24.

* * *

In the uncertain state 502, the group services daemon
consults the membership list to determine who on the list is
indicated as the next name server, as described in the
aforementioned U.S. patent application Ser. No. 08/640,412. This
next name server is identified as the crown prince or CP. If the
node is the crown prince, the node moves to the ascend state 503
via 534: Badovintz, column 6, lines 32 – 36.

* * *

After the new name server gets all of the data for the table T, it broadcasts a take over commit (TO Commit) message to all of the other nodes to indicate that it is the new name server and moves to the complete state 540 via 545. In the complete state 540, the name server is now ready to process lookups as discussed in the aforementioned U.S. patent application Ser. No. 08/684,246 (Attorney Docket No. PO9-96-080). Badovinat, column 6, lines 60 – 67.

Applicants respectfully submit that it is not seen where in the reproduced portion of the Badovinat patent the emphasized portions of claim 1 are either described or suggested. In particular, the portion of the Badovinat patent at column 6, lines 32 -36 says nothing about “storing configuration information for all the failover candidate nodes” as recited in claim 1. Additionally, the portion of the Badovinat patent at column 6, lines 31 – 37 says nothing about “analyzing . . . the stored configuration information in order to determine whether to take over the service of a failure node by a failure candidate node or not” as recited in claim 1.

Accordingly, Applicants respectfully submit that claim 1 is patentable over the Badovinat reference, and therefore respectfully request that the Examiner withdraw the rejection of claim 1. Additionally, Applicants respectfully submit that independent claims 8 and 9 are patentable for the same reasons as submitted with respect to claim 1. Further, claims 2 – 4 and 7, which depend from claim 1, and claims 10 – 12, which depend from claim 9, are patentable because they depend from base claims which

Applicants respectfully submit are patentable. For these reasons, Applicants also respectfully request that the Examiner withdraw the rejection of claims 2 – 4 and 7 – 12.

Applicants respectfully submit the following additional arguments regarding certain dependent claims.

Claim 2 recites a “method according to claim 1, wherein a failover request is carried on to at least a second failover candidate if only a subset of the filesystem is taken over from the failure node by a first failover candidate” (emphasis added). Applicant respectfully submits that it is not seen where the portion of the Badovinatz reference relied upon by the Examiner either describes or suggests the emphasized subject matter:

While in the ascending state 504, the CP node sends a takeover phase one message to all of the other nodes in the domain. If the node discovers via its local heartbeat function that this node is not the crown prince because a more senior CP in the membership list has come up, or receives a takeover phase one (TOP1) NACK message, it broadcasts an abort message to all of the other nodes and moves back to the uncertain state 502 via 505.

Badovinatz patent, Column 6, lines 44 – 51. Applicant respectfully submits that this portion of the Badovinatz patent neither describes nor suggests a handover “to at least a second failover candidate if only a subset of the filesystem is taken over from the failure node by a first failover candidate” (emphasis added). The same reasoning applies to

claim 10. Accordingly, Applicants respectfully submit that the foregoing reasons provide additional support for the patentability of claims 2 and 10.

B. Rejection of Claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over the Badinovatz Patent in view of the Vert Patent

Applicants respectfully submit that since claims 5 and 6 depend from an allowable base claim, they are likewise patentable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of claims 5 and 6.

Further, Applicants respectfully submit that the portion of the Vert patent relied upon by the Examiner does not concern failover of a service, but to the reallocation of groups:

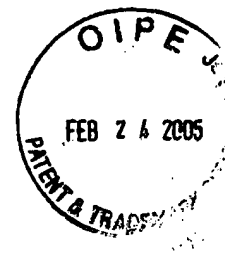
When an entire system in the cluster fails, its groups are pulled from the failed system to another system. This process is similar to pushing a group, but without the shutdown phase on the failed system. To determine what groups were running on the failed system, the systems maintain group information on each node of the cluster in a database to track which systems own which groups. To determine which system should take ownership of which groups, those systems capable of hosting the groups negotiate among themselves for ownership, based on system capabilities, current load, application feedback and/or the group's system preference list. Once negotiation of a group is complete, all members of the cluster update their databases to properly reflect which systems own which groups.

Vert patent, Column 9, lines 16 – 19. As is apparent from this portion of the Vert patent, it is groups that are being reallocated, not services. It is clear from other portions of the Vert patent that “group” is not synonymous with service:

A group is a collection of resources organized to allow an administrator to combine resources into larger logical units and manage them as a unit. Usually a group contains all of the elements needed to run a specific application, and for client systems to connect to the service provided by the application.

Vert patent, Column 6, lines 19 – 24.

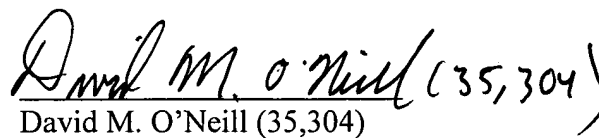
For the foregoing additional reasons, Applicants respectfully submit that whether taken singly or in combination, the Badovinatx and Vert patents neither describe nor suggest the subject matter of claims 5 and 6.



III. Conclusion

The Applicants submit that in light of the foregoing amendments and remarks the application is now in condition for allowance. Applicants therefore respectfully request that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,


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